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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

.....11...... NATIONAL PARK

FILE NO. 143

MONTHLY REPORT

FOR

FEBRUARY, 1924.

FEBRUARY, 1924.



March 3, 1924.

Dear Sir:

The following is my report on conditions in the Yellowstone National Park and on the operation of the park for the month of February, 1924:

#### I. GENERAL CONDITIONS

Sleighing operations between Mammoth and Lake have been conducted on regular schedules throughout the month and road conditions have been excellent except for a strip of about 2 miles north from Norris which is difficult by reason of the lack of snow. Weekly mail deliveries and a limited amount of freighting have been carried on between Gardiner and Cooke City. The roads are in good shape and travel conditions are excellent. Snow depths are considerably below normal on most of the park highways. The average snow depth on the road from Madison Junction to West Yellowstone is less than two feet and from Madison Junction to Old Faithful the average depth is about 18 inches. The approach to the east entrance is comparatively free from snow and automobiles are traveling to within 8 miles of the Sylvan Pass Station. There is a very good prospect that most of the park roads will be open to travel by May 15th.

#### Weather

The following records are quoted from the report for February of the Observer in charge of the local United States Weather Bureau at Mammoth Hot Springs, Park Headquarters:

Temperature: Monthly mean, 26.2° is 6.5° normal, and with two exceptions (1915 and 1907), the warmest February



of record. The month was characterized by unusually mild and spring-like weather, and the highest temperature, 51° on the 14th, has been equalled once (February 27, 1921) but not exceeded in February during the past 37 years of record. The lowest was -4° on the 20th, it being the only day with temperature zero or below. The average February has six days with temperature below zero.

Precipitation: Total, 0.77 inch, is 1.14 inches below normal. Light precipitation, mostly in the form of snow, occurred on 14 days.

Snowfall: Total, 7.1 inches, is a little less than one-half the average amount for February. The greatest depth on the ground was 13.0 inches on the 2d, but by the end of the month it had settled to 7.0 inches. The average depth on the ground at the end of February is 12.5 inches.

Wind: Average hourly velocity 7.2 miles, normal 8.2 miles. The maximum velocity was 31 miles per hour from the south on the 1st.

Sunshine: Percentage of possible 58; normal 53.

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Snow Depths: Rangers on stations report the following snow depths at the close of the month. Snow depths of February 28, 1923, are also given for the purpose of comparison:

<u>Station</u>	<u>1923</u> <u>Inches</u>	<u>1924</u> <u>Inches</u>
Buffalo Ranch	12	16
Soda Butte Station	30	36
Tower Falls	10	16
Upper Basin	-	16
Lake	28	37
Thorofare	35	30
Hellroaring	-	18
Norris	-	33
Canyon	-	36
Thumb	-	40
Riverside	30	31
Callatin	-	26
Sylvan Pass	-	25
Snake River	43	47
Bechler River	50	50

The prevailing weather conditions throughout the park have been moderate; mild days and sharp nights, night temperatures ranging from zero to 30 below, moderate increases in snow depths being reported from most stations.



### Travel

No visitors were registered from any of the park entrances during the month.

### II. PERSONNEL.

On February 1 there were 69 appointees on the payroll, and on February 29 there were 69. The following list shows the number of appointees of various classes serving during the month, with a general statement of the kind of work in which they were engaged:

<u>No.</u>	<u>Class</u>	<u>Kind of Work Performed</u>
1	Superintendent	General administration and supervision of all activities in the park.
1	Asst. Superintendent	Administration, purchasing, disbursing.
2	Asst. Engineers	1 in charge of engineering work in park; 1 assisting.
5	Clerks	1 Financial Clerk; 1 Cost Accounting Clerk; 1 Personnel and File Clerk; 1 Clerk on orders, proposals and vouchers, also handling time and payroll work; 1 stenographer-typist on stenographic work for Superintendent.
3	Electricians	Operated power plant regular shift, including Sundays, read meters, did necessary line work.
3	Foremen	1 in charge of headquarters corral and freighting work about headquarters; one on road and construction work; one repairing sprinkler and dump wagons.
1	Telegrapher	Sent and received all Government Western Union messages, operated one shift on telephone switchboard.
2	Telephone Switchboard Operators	Operated telephone switchboard daily shifts, including Sunday.
1	Master Mechanic	In charge of shops and of repair to heavy road machinery.
2	Blacksmiths	General blacksmith work, including shoeing of horses in shop, overhauling and repairing tools and equipment.



1	Machinist	Repairing equipment.
1	Master Painter	General shop work, including painting equipment and buildings.
1	Master Plumber	In charge of general plumbing and water and sewer systems.
1	Auto Mechanic	On duty in power plant.
1	Carpenter	Repairing buildings at headquarters.
5	Laborers	Towing, freighting, assisting mechanics and miscellaneous work at headquarters.
1	Steward and Master of Transportation.	In charge of all transportation and of storehouses.
1	Chief Buffalo Keeper	In charge of tame buffalo herd.
1	Asst. Buffalo Keeper	Assisting in hay ranch operations at Slough Creek.
1	Buffalo Herder	Assisting Buffalo Keeper.
1	Park Naturalist	Scientific research work and developing museum.
1	Chief Park Ranger	In charge of ranger force.
1	First Asst. Chief Park Ranger	In charge of Northern District.
1	Asst. Chief Park Ranger	On duty at Lake District.
21	Park Rangers (15 WAE)	Patrolling, protection of game, miscellaneous duties.
7	Temporary park rangers	Patrolling, miscellaneous duties.

#### Leaves of Absence

A.O.D. Herman, Laborer, February 1-16, 14 days.  
 C.W. Enoch, Foreman, February 1-23, 23 days.  
 W. L. Bicket, Carpenter, February 6-7 (noon), 1-1/2 days.  
 E. E. Ogston, Park Ranger, February 9-23, 12 days.



Anna E. Madson, Clerk, February 9, 23, 13-15, 28, 29, 7 days.  
 James M. Dupuis, Park Ranger, February 1-7 (noon), 5-1/2 days.  
 Joseph C. Rhode, Park Ranger, February 21-23, 2 days.  
 Peter E. Bilkert, Financial Clerk, February 6-9, 4 days.  
 Walter Reimann, Park Ranger, February 21-23, 2 days.  
 Carl Dunrud, Park Ranger, February 21-23, 2 days.  
 Lee Cottrell, Park Ranger, February 23-29, 6 days.  
 Joseph Cummings, Laborer, February 19-21, 3 days.  
 Wm. L. Bicket, Carpenter, February 19-23, 4 days.  
 Harry McFarland, Foreman, February 1-19, 16 days.  
 C. D. Dale, Electrician, February 18-23, 5 days.  
 Sam T. Woodring, Chief Ranger, February 16-21, 5 days.  
 Charlie Stinnott, Blacksmith, February 23-26 (noon), 4-1/2 days.  
 Peter E. Bilkert, Clerk, February 19-21, 3 days.  
 Harry J. Lick, Park Ranger, February 23-25 (noon), 1-1/2 days.  
 William Wiggins, Master Plumber, February 23, 1 day.  
 Charles A. Brant, Field Steward & Master of Transp., Feb. 25-29, 5 days.  
 Joseph Joffe, Clerk, February 23, 1 day.  
 Andrew R. Edwin, Clerk, February 19, 1 day.  
 Arthur W. Burney, Engineer, February 16, 1 day.  
 Lucy Bilkert, Clerk, February 28, 1 day.  
 Leroy Hill, Asst. Supt., Feb. 6-7, 2 days.  
 Arthur W. Burney, Engineer, Feb. 27-29, 3 days.

#### Sick Leave

Sam T. Woodring, Chief Ranger, February 1, 1 day.  
 Sam T. Woodring, Chief Ranger, February 4-15, 12 days.  
 Fred C. Finch, Park Ranger, Febr. 23-25, 3 days.

#### Leave Without Pay

Julia S. Stockett, Clerk, Feb. 1-29.  
 Warren Hutchings, Assistant Buffalo Keeper, Feb. 1-29.

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In addition to the regular employees listed above under appointment, the following were employed temporarily by the day:

	<u>February 1</u>	<u>February 29</u>
Laborer	1	1
Skilled Laborers	2	2
Total Laborers...	3	3
Appointees.....	69	69
	<u>72</u>	<u>72</u>

### III. WORK COMPLETED.

#### (a) Miscellaneous Improvement Work:

As no field work was in progress during the month the two engineers on duty devote their time to general office work, drafting



and making plans for the next season. A 24-foot span, concrete T beam bridge was designed for Gunbarrel Creek to replace the wooden one that went out last summer. Standard plans were made for a log-trimmed, frame bunkhouse; a frame mess building and a log-trimmed frame stable. The sprinkler schedule was revised to the use of auto-sprinklers in place of some of the horse drawn sprinklers and other miscellaneous plans made.

#### IV. WORK IN PROGRESS.

##### (a) Construction of Physical Improvements

##### Yellowstone Park Hotel Company:

Lake Hotel: The work on the kitchen is practically finished. All that remains to be done is the placing of fixtures and making the necessary connections. The concrete floors in basement are yet to be laid.

The work on the dining room and rooms above is finished in all particulars except painting.

The connection between the old and new parts of the hotel is completed except for the two final coats of paint, and all repair work in the lobby has been done except painting.

The floors in the engine room have been laid and boxing in is about all that remains to be done to this improvement.

Nothing further will be done at the Lake Hotel until spring as the crew has moved to Mammoth, arriving on the 20th.

Mammoth Hotel: No construction work has been done at Mammoth Hotel during the month; the crew from the Lake will begin work on the new kitchen March 1st and will be increased in numbers about March 15th.

##### Yellowstone Park Transportation Company:

There has been no new construction during the month; a crew of 50 men have been continuously employed in the business of overhauling and repairing cars and trucks and have turned out a large volume of work.

##### Yellowstone Park Camps Company:

A crew of 10 men have been employed by the Camps Company throughout the month. Seven have been engaged in furniture making and three have been repairing trucks. There has been no other



activities of any consequence during the month.

(c) Miscellaneous Improvement Work

The Master Painter painted one truck in shop, varnished dining room at Bilkert's quarters, painted kitchen and bathroom at C. Stimmitt's quarters, and did painting at hospital balance of month.

The Master Mechanic and his assistants worked in the garage, overhauling 5 trucks (F.W.D.) and repaired Dr. Wolfe's car. New equipment; 3 truck bodies complete.

The Blacksmith built 1 sprinkler rig and overhauled 7 dump wagons, and did horseshoeing and small repairs as needed.

The Carpenter worked in the hospital; also made crates for buffalo hides and elk horns.

The Steward and Master of Transportation completed all equipment including supply records, memorandum receipts and cards, worked in storehouse repairing equipment.

The Master Plumber and his assistants finished installing the heating plant in the garage; maintained sewer and water systems at Mammoth.

The Telephone System and Power Plant were operated in the usual manner. The Power Plant was run constantly with the results shown in comparison for February 1923, as follows:

	<u>1923</u>	<u>1924</u>
Total current generated, in KWH	31,560	43,310
Of this, sold to concessioners at 5¢ per KWH	2,079	3,422
Consumed for street lighting	1,650	1,650
Balance, consumed in Government buildings, for power and lighting, lost on lines in transit	27,831	38,238
Peak load during month in KWH	76	96

The Telephone and Switchboard Office was open daily from 7:30 to 8:45 P.M. The total business handled was as follows:

Switchboard Calls

On Government local lines.....	1815
On Hotel, Company lines.....	227
On Long Distance Connections.....	93
Total..	2135

Telegrams

Government sent.....	66
Commercial sent.....	21
	87



Government received.....	56
Commercial received.....	16
	<u>72</u>

### Office Force

The office force was busy with usual routine work, which includes orders, payment of vouchers, preparation of accounts, reports, general correspondence, etc. 881 pieces of official mail were received and 619 were sent out during the month.

### Ranger Patrols and Activities

The regular patrols have been made from all stations and excellent conditions prevail throughout the park. There were no special patrols of any consequence. All patrols in the south and west districts have been made on skis and skiing is very good. All patrols in the north district have been mounted except the patrols from Soda Butte Station where the use of horses is impracticable on account of the snow depths; other activities have consisted of the usual routine work with special efforts at all points against predatory animals; the result was far below the totals of last month but should not be charged to any lack of effort on the part of the rangers as they have been active at all times.

Telephone communications have been good throughout the month. There has been very little trouble at any time and we are now in touch with all stations.

Chief Ranger Woodring was absent from the 4th to the 22nd on account of sickness. First Assistant Chief Ranger Trischman was actively in charge of the work during his absence. He returned to duty on the 23rd and has since been fully engaged with detail work of the office and other routine work of the department. Proposals for the 1924 lineup of the ranger department have been prepared and submitted to Mr. Albright, and all applications for temporary appointments have been listed and classified.

First Assistant Chief Ranger Trischman is on a tour of inspection of the north district; he is traveling from Slough Creek to Hellroaring today (the 29th), and will return to Mammoth tomorrow. He reports good conditions at all points.

Assistant Chief Ranger Douglas was at Bechler River on the 24th, Snake River on the 26th, Thumb on the 28th, and at Lake today (29th). He reports splendid conditions at all points in the South District.

Riverside reports 31 inches of snow and moderate weather. Sylvan Pass reports 25 inches of snow with weather extremely mild. Autos are



now operating on the highway east of the park to a point within 8 miles of the Sylvan Pass Ranger Station. Patrols from all points indicate the presence of game on both the higher and lower levels.

#### VII. POLICIES.

There were no changes in policy during the month.

#### VIII. COST OF OPERATION.

The cost of operating the park for the month of February, 1924, will be shown on the monthly Cost Accounting Report which will go forward as soon as prepared.

#### IX. OTHER MATTERS OF INTEREST.

##### Wild Animals

Game Conditions: Game conditions are exceptionally good. Forage is not quite so plentiful as heretofore on the lower levels and there has been a moderate falling off in the size of the herds due to a tendency to move up to the higher levels where forage is plentiful and easily accessible because of the exposed ridges and comparatively light snow depths. The herds are all in good condition and wintering splendidly.

Elk: The main body of the Yellowstone herd continues at Hellroaring, Slough Creek and the Lamar River Flats. They are present in the usual numbers at Tower Falls, Blacktail, Mt. Everts, Sepulchre and along the Yellowstone from Hellroaring to Grotto Basin there has been no further drift to points outside the park. The Gallatin herd has moved into the game preserve well beyond the park limits, and only a few scattered elk have been seen on patrols in the Gallatin District during the month. The counts on the Gallatin herd to date total 3000. Rangers on patrol during the month submit the following isolated counts: Sylvan Pass (East of park line) 150; Bechler River 39, Upper Yellowstone 70, Upper Geyser Basin 16, Fountain Flats 38, Norris 30. Small bands at Elk Park and Gibbon Meadows no actual count being had; Turbid Lake 9, and Sulphur Hills (north of Squaw Lake) 20. These bands were all in splendid condition. The total losses for the season thus far reported is as follows: 2 calves and 14 cows - total 16. One calf broke its neck in fence at Slough Creek and 1 cow was stabbed to death on the antelope fence at Gardiner; the additional 14 are rated as winter kills, and 8 of the total number were reported from the lower Slough Creek ranch.

Antelope: The antelope range is patrolled daily both within and without the park. The range is comparatively free from snow, and forage is adequate. The females are heavy with kid and the herd is in fine condition. Daily counts have been discontinued and weekly counts are being submitted instead with the view of avoiding all needless disturbance



of the herd. The daily patrols will, of course, go on as usual. The largest count had for any one day during the month occurred on the 14th when a total of 182 was counted at Sherman's and Stoll's pastures and a total of 121 were observed on the slopes of Squalchro and Mt. Everts, making a grand total of 303. The antelope losses for the season to date are as follows: 1 dead from old age, 4 coyote kills, total 5.

Deer: Reports on deer from all points are highly satisfactory. The Mammoth herd is ever present and is wintering in good shape, although they have been rationed with a limited amount of hay for a period of about 2 weeks. Reports from rangers on antelope patrols give average daily counts of about 30 deer. A recent patrol from Mammoth to Hellroaring via Blacktail and the Yellowstone River reports a total of 86, and of this number 76 were seen on Cottonwood. The usual small bands are wintering at the Upper Geyser Basin (10), Madison Junction (8) and Sylvan Pass (?). The season's losses to date are as follows: Coyote kills 7; winter kills 3. Kills resulting from fatal injuries 2, total 12.

Mountain Sheep: Recent counts from Tower Falls and Hellroaring enable me to submit the following totals for the season to date:

Tower Falls District, including the north end of Specimen Ridge, Lamar River Flats and Junction Butte.....		127
Hellroaring.....		43
Mount Norris.....		12
Amphitheatre Mountain.....		14
Mt. Everts.....		21
Total..		217

The largest number reported up to March 1st of last year was 141, so it will be observed that the count to date shows an increase of 76 and it is believed that subsequent counts will show a further increase over our present totals.

Wild Buffalo: A total of only 14 wild buffalo have been seen thus far this season. 12 were seen by Ranger Dupuis near the Cold Creek Snowshoe Cabin and two were seen by Ranger Bowman on Pelican Creek. These counts were both had prior to January 1st. Subsequent patrols to Miller Creek, Cold Creek and Pelican Creek have reported no wild buffalo seen and signs have not been plentiful. No efforts have been made this season to obtain a full count on this animal, and weather conditions usually make it impractical to do so before the month of April.

Tame Buffalo Herd: The herd is in splendid condition. Feeding of both calves and adults has been carried on throughout the month, and 120 tons of hay has been fed. The main herd has been very restless and troublesome, which is no doubt due to the springlike weather conditions



and the rather poor quality of the hay. Considerable effort has been required to keep them at the feeding grounds. The report of last month made note of a stray band of tame buffalo, numbering 27, observed by rangers Finch and Ogston on Miller Creek, and it was further remarked that this band had been returned to the main herd. This was erroneous and the report should have read that efforts were then being made to return them to the main herd, and the fact is that they are still in the Miller Creek country, all efforts to return them being thus far unsuccessful. They are fairly well conditioned and are wintering quite well. Latest reports from the Buffalo Ranch advise that three of this band have returned to the feeding grounds.

Moose: Recent counts indicating numbers and distribution of moose throughout the park have been had from rangers on patrol and are reported as follows:

Upper Yellowstone	74
Gallatin District	3
Tower Falls District	16
Miller Creek	5
Sylvan Pass	8
Bochler River	1
Riverside	1
Buffalo Creek (north boundary)	6
Madison Junction	1
Morris	4
Total	119

It will be observed from these figures that moose are thriving in all sections of the park.

Small Game: My remarks under this heading have to do with the report of Rangers Finch and Ogston on the activities of otter along Pebble Creek. They have been active throughout the course of this stream and the banks of the stream at all pools and waterholes have been littered with dead fish. This stream has to all appearances been literally stripped of fish.

Signs of Lynx have been reported from the neighborhood of Park Point (there were indications of three at this point), and another near Mud Geyser.

Predatory Animals: Other activities against coyotes during the season to date show the following results:

October and November	53
December	22
January	64
February	37
Total	176



The results for the same period of last season were as follows:

October and November	65
December	45
January	42
February	24
Total	176

The total of the next preceding year for the same period was 130.

One wolf was seen during the month by Ranger Keate on the Elephants Back near the Lake Station. He also saw wolf signs near Mt. Geyser. No signs of mountain lion were observed during the month.

Game Feeding: Game feeding has been limited to the tame buffalo herd and as heretofore noted a total of 130 tons of hay was fed at the Buffalo Ranch during the month.

The feeding of horses at the Lower Slough Creek Ranch was begun on the 20th when the horses at Yanceys were moved to that point. The total number of horses is 55 and they are in splendid condition. They have been fed 7-1/2 tons of hay since their arrival at Slough Creek.

Rangers from Gardiner Station have made a careful patrol of the water line along the Yellowstone and Gardiner Rivers in their district, and there are no dead animal carcasses at any point covered by this patrol.

#### Arrests and Violations of Law

Rangers from Gallatin Station reported on February 4th the arrest, by State Game Wardens, of one Henry Rugemerer who resides in the Gallatin Valley a few miles beyond the east boundary of the park. A quantity of moonshine and elk meat was found in his possession at the time of his arrest. He is now in jail pending prosecution, and should there be any developments in this case of interest to the Park Service a detailed report of same will be made to the Department.

#### Sickness and Medical Attention

Dr. J. R. Wolfe, National Park Service physician, reports 27 resident calls and 35 office calls for the month.

#### School

The school report for the month of February is attached hereto.

#### Religious Services

Church services were held in the Canteen on February 7 and 21 by the Rev. Geo. F. Koehler, of the English Lutheran Church of Livingston, Mont.

The Rev. W. Friend Day of Enigrant, Montana, of the Episcopal Church, held services on the evening of February 10 and the morning of February 24.



### Births

A daughter, Ruth Elisabeth Velsvik, was born on February 14, 1924, to Per and Marie Velsvik. Mrs. Velsvik is a sister to Mrs. Hans Larson of Mammoth. Mr. and Mrs. Velsvik recently came to this country from Norway and are staying with Mr. and Mrs. Larson.

### IX. RECEIPTS AND REMITTANCES.

Postal Money Order #54642, dated February 7, 1924, drawn  
by the Postmaster at Yellowstone Park, on the  
Postmaster at Washington, D.C., amount.....\$12.65

Cordially yours,

LEROY HILL  
Acting Superintendent.

The Director,  
National Park Service,  
Dept. of the Interior,  
Washington, D.C.



## MONTHLY METEOROLOGICAL SUMMARY.

Station, YELLOWSTONE PARK, WYO.; month, F E B R U A R Y, 1924., 19   .

NOTE.—“T” indicates trace of precipitation.

In the autumn frosts are not recorded after the occurrence of "killing," except in Florida and along the immediate coast of the Gulf of Mexico.

E. H. Fletcher, Observer.

Weather Bureau.



## U. S. DEPARTMENT OF AGRICULTURE,

WEATHER BUREAU.

## MONTHLY

## METEOROLOGICAL SUMMARY.

STATION

Yellowstone Park Wyo

MONTH

FEB 1924

19



143  
Monthly  
Reports

U. S. DEPARTMENT OF AGRICULTURE

WEATHER BUREAU

Yellowstone Park, Wyo.

WEATHER CONDITIONS--MAMMOTH HOT SPRINGS.

F E B R U A R Y, 1924.

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E. H. Fletcher,  
Observer in Charge.